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*ABC of palliative care***Constipation and diarrhoea**

Marie Fallon, Bill O'Neill

Prevalence of constipation

Constipation can be defined as the passage of small hard faeces infrequently and with difficulty. Constipation is more common in patients with advanced cancer than in those with other terminal diseases, and many of the associated symptoms may mimic features of the underlying disease. About half of patients admitted to specialist palliative care units report constipation, but about 80% of patients will require laxatives.

Assessment of constipation**History**

An accurate history is essential for effective management. Inquiry should be made about the frequency and consistency of stools, nausea, vomiting, abdominal pain, distention and discomfort, mobility, diet, and any other symptoms. In patients with a history of diarrhoea, care should be taken to distinguish true diarrhoea from overflow due to faecal impaction.

Careful questioning about access to a toilet or commode is important. Limited mobility may mean that using the toilet or commode is avoided. Other issues, such as lack of privacy or the need for nurses or carers to help with toileting, can exacerbate constipation.

Examination

A constipated patient may have malodorous breath, or the smell of faecal leakage may be obvious. Bacterial degradation of hard stools can result in leakage, of which the patient has no warning. General observation may reveal that a patient is in pain, confused or disorientated, or unable to reach the toilet. Abdominal distension, visible peristalsis, and borborygmi can suggest obstruction.

Palpation may reveal an easily palpable colon with indentable and mobile (and rarely tender) faecal masses. In contrast, tumour masses are usually hard, not indentable, fixed, and often tender. In constipation complicated by obstruction, auscultation of the abdomen may reveal high pitched tinkling bowel sounds, although the abdomen can also be silent.

Digital examination of the rectum or stoma is crucial if constipation is suspected—this will immediately reveal hard stools, tumour masses, or concomitant disease such as haemorrhoids, an anal fissure, or perianal ulceration. The rectum or stoma can be empty in constipation—hard or even impacted stools can lie higher in the bowel.

Constipation may herald a spinal cord compression. If a neurological deficit is suspected a full neurological examination is essential, including assessment of sphincter tone and rectal sensation. Referral, if appropriate, should be made as an emergency.

Investigation

Occasionally, despite an accurate history and examination, the diagnosis of constipation is still not clear. A plain x ray of the abdomen can be useful. Large amounts of stools may appear as clumps of rounded masses with entrapped gas and varying degrees of dilated bowel. Rarely, toxic dilation of the colon may be seen.

Constipation**Definition**

- Infrequent hard stools

Associated symptoms

- Flatulence
- Bloating
- Abdominal pain
- Feeling of incomplete evacuation

Symptoms of complications

- Anorexia
- Overflow diarrhoea
- Confusion
- Nausea and vomiting
- Urinary dysfunction

Assessment of constipation must include establishing in what way the present pattern of bowel movements is different from the normal pattern and a physical examination, including general observation, abdominal palpation, and rectal or stomal examination



Radiograph of constipated patient showing stool masses and trapped gas

Causes of constipation

Knowledge of the underlying cause helps in both prophylaxis and treatment. The most important of these are immobility, poor fluid and dietary intake, and drugs, particularly opioids.

Opioid induced constipation

In patients with cancer and pain, the use of opioids is the commonest cause of constipation, particularly in immobile patients. Opioids cause constipation by maintaining or increasing intestinal smooth muscle tone, by suppressing forward peristalsis, by raising sphincter tone at the ileocaecal valve and anal sphincter, and by reducing sensitivity to rectal distension. This results in delayed passage of faeces through the gut, with resultant increase in absorption of electrolytes and water in the small intestine and colon.

Gastrointestinal obstruction

Sometimes, a combination of hard stools in the bowel and intrinsic or extrinsic bowel tumour or pelvic tumour coexist, causing gastrointestinal obstruction. With appropriate management of the constipation, the obstructive symptoms may resolve (intestinal obstruction has been covered in an earlier article in this series).

Neurological problems

Bowel management is particularly troublesome and is a common problem in patients with spinal cord compression or cauda equina syndrome. A combination of immobility, loss of rectal sensation, poor anal and colonic tone, and pain may result in constipation with overflow and variable degrees of abdominal distension, nausea, and vomiting.

A cauda equina lesion will abolish the anocolonic reflex, but a higher spinal cord lesion leaves this reflex intact. In the latter case, digital rectal stimulation or suppositories will stimulate colonic contraction and aid evacuation of the colon, whereas in the cauda equina syndrome the colon remains lax.

The aim in managing spinal cord compression or cauda equina syndrome is to attain a "controlled continence." This means giving an individualised combination of oral laxatives daily with suppositories or enemas every two to three days to enable rectal evacuation. The intention is to avoid incontinence in those patients with loss of rectal sensation.

Managing constipation

The management of constipation extends well beyond the use of laxatives. Attention to other symptoms—especially pain and advice on diet, fluid intake, mobility, and toileting—contributes to an effective outcome.

The aim of laxative therapy is to achieve comfortable defecation, rather than any particular frequency of evacuation. Although most laxatives are not very palatable, oral laxatives should be used whenever possible. The choice of laxative depends on the nature of the stools, the cause of the constipation, and acceptability to the patient. Laxatives can be subdivided into three groups:

- Predominantly softening
- Predominantly peristalsis stimulating
- Combination of the two.

When choosing laxatives, a knowledge of the main mechanism of action of laxatives is helpful. Many of the softeners increase stool bulk and lead to reflex stimulation of peristalsis, and, similarly, the peristalsis stimulators enhance intestinal fluid secretion and therefore improve stool consistency.

Causes of constipation

Caused by cancer

- Hypercalcaemia
- Intra-abdominal or pelvic disease
- Spinal cord compression
- Cauda equina syndrome
- Depression

Associated with debility

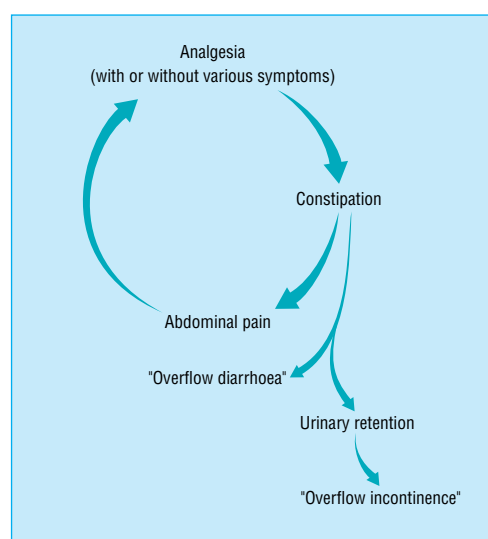
- Weakness
- Inactivity or bed rest
- Poor nutrition
- Poor fluid intake
- Confusion
- Inability to reach the toilet

Caused by treatment

- Opioids
- Antiemetics—cyclizine, ondansetron
- Anticholinergics—antispasmodics, antidepressants, neuroleptics
- Aluminium salts
- Non-steroidal anti-inflammatory drugs

Concurrent disorders

- Haemorrhoids
- Anal fissure
- Endocrine dysfunction



Vicious cycle of constipation associated with opioid analgesia

A distended rectum or colon can be a potent cause of agitation and pain in a dying patient. Evacuation of the rectum or colon with suppositories alone or with an enema can give complete relief of agitation. The use of opioids to treat the pain of constipation only makes the constipation, and ultimately the pain, worse and a vicious cycle ensues

Oral laxatives

Predominantly softening

Surfactants—Sodium docusate, poloxamer
Osmotic laxatives—Lactulose, sorbitol
Bulking agents—Ispaghula, methyl cellulose
Saline laxatives—Magnesium sulphate
Lubricants—Liquid paraffin

Predominantly peristalsis stimulating

Anthracenes—Senna, danthron
Polyphenolics—Bisacodyl, sodium picosulphate

Predominantly softening laxatives

Surfactant laxatives act as detergents, increasing water penetration and hence softening the stools. Docusate also promotes secretion of water, sodium, and chloride in the jejunum and colon. Poloxamer and docusate have a latency of action of one to three days. Docusate is often used alone as a softener in intermittent bowel obstruction. It is also used in combination with the peristalsis stimulator danthron (as co-danthrusate). Poloxamer is marketed only in combination with danthron (co-danthramer). Both co-danthrusate and co-danthramer are effective laxatives for opioid induced constipation.

Osmotic laxatives—The most popular in this group is lactulose. Its latency of action is up to three days. It flushes the small bowel and, with larger doses, tends to result in bloating and colic. Flatulence and its sweet taste can cause problems with compliance. Sorbitol is cheaper and less nauseating. Osmotic laxatives should be accompanied by an increase in fluid intake.

Bulk forming agents are stool normalisers rather than true laxatives. They are less helpful in cancer patients because of the volume of water required, their unproved efficacy in severe constipation, and the possibility of worsening an incipient obstruction.

Saline laxatives—These, especially magnesium sulphate, can produce an undesirably strong purgative action. Magnesium hydroxide is also used in combination with liquid paraffin (Milpar).

Lubricants—Liquid paraffin is now rarely used because of its unpleasant taste and because, with long term use, it can cause considerable irritation. Aspiration can result in a lipoidal pneumonia.

Peristalsis stimulating laxatives

These drugs directly stimulate the myenteric plexus to induce peristalsis and reduce net absorption of water and electrolytes in the colon, making them particularly useful in opioid induced constipation. Their latency of action is 6-12 hours. Any bowel stimulant can cause abdominal colic and severe purgation. The dose of stimulant should be titrated as with any potent drug and consideration given to dose at each administration; colic may be reduced by giving the total daily requirement in divided doses.

Senna can be used in combination with a softener such as lactulose. Equal proportions of senna liquid and lactulose are more potent than standard co-danthramer (danthron and poloxamer), but seem less potent than co-danthramer forte.

Senna and danthron directly counteract the important constipating effects of opioids and can be highly effective when used with a stool softener. They are invaluable in colonic inertias. Patients given danthron should be warned of the pink or red discolouration of the urine, and the perianal area should be watched for a danthron rash, particularly in incontinent patients, who may require a barrier cream.

Rectal laxatives

Rectal laxatives are sometimes necessary but should never accompany an inadequate prescription of an oral laxative. They are necessary for treating faecal impaction and for conditions such as spinal cord compression, when long term use may be necessary. They should not, however, be part of the regular treatment of every cancer patient with constipation. They are undignified and inconvenient and may have a considerable negative effect on quality of life.

Rectal laxatives are available as suppositories or enemas, and their mode of action is similar to that of the equivalent oral agent. Soft stools in a lax rectum can be evacuated by a stimulant such as bisacodyl, and hard stools in the rectum can

Formulations of laxatives

Co-danthrusate

Combination of softener (docusate) and stimulant (danthron)

- Capsules—2 capsules at night up to 3 capsules four times daily

Co-danthramer

Combination of softener (poloxamer) and stimulant (danthron); available in standard strength or forte (with 3 times as much danthron as standard but 5 times as much poloxamer)

- Capsules—2 capsules at night up to 3 capsules four times daily
- Liquid—15 ml at night up to 15 ml thrice daily

Lactulose*

Softener

- Liquid—15 ml twice daily (according to patient's needs)

Senna*

Stimulant

- Tablets—2-4 tablets at night (if larger dose, split administration)
- Liquid

Sodium docusate

Softener (useful in intermittent bowel obstruction)

- Tablets—100-200 mg thrice daily
- Liquid—100-200 mg thrice daily

*Often used together



Access and ability to get to a lavatory may be more important in constipation than supply of laxatives

Questions to guide choice of rectal laxative

- Is the rectum or stoma full?
- Is the stool hard or soft?
- Is the rectum or stoma empty but the colon full?
- Are the rectum and colon both full?
- Does the patient have rectal sensation?
- Does the patient have normal anal tone?
- If a cord lesion is present what is the level?

Choices of rectal laxative

Bisacodyl suppository—Evacuates stools from rectum or stoma; for colonic inertia

Glycerine suppository—Softens stools in rectum or stoma

Phosphate enema—Evacuates stools from lower bowel

Arachis oil enema—Softens hard impacted stools

be softened with glycerine suppositories. A combination of a bisacodyl suppository with a glycerine suppository is sometimes helpful. In cases of colonic inertia, a bisacodyl suppository placed in direct contact with the rectal mucosa may produce rapid results.

Lubricant enemas such as arachis oil are normally given overnight as retention enemas to soften very hard stools in the rectum or higher up, before administration of a saline rectal laxative such as sodium phosphate. In such severe cases the enema should be administered high with a Foley catheter and not just placed in the lower rectum, from where it will leak out as it is administered. The catheter balloon can be inflated for 10 minutes to minimise immediate return of the enema.

For less severe impaction, a high phosphate enema may suffice. Enemas may need to be repeated several times to clear the bowel of hard impacted faeces; patients can then usually be maintained with regular oral laxatives.

When rectal laxatives are required, an appropriate oral laxative should be prescribed at the same time. Once disimpaction occurs, the dose of oral laxative may need to be titrated with the aim of reaching a maintenance dose that prevents further faecal impaction.

Management of constipation in patients with stomas should follow the principles outlined above, but it must be remembered that no sphincter exists. Suppositories should be held in place with a gloved finger, and enemas should be retained by inflating a Foley catheter balloon for 10 minutes.



Radiograph showing megacolon secondary to rectal impaction

Diarrhoea

With the exception of patients with AIDS, diarrhoea is much less common than constipation in patients with advanced disease. Less than 10% of those with cancer admitted to hospital or palliative care units have diarrhoea. Diarrhoea can be highly debilitating in a patient with advanced disease because of loss of fluid and electrolytes, anxiety about soiling, and the effort of repeatedly going to the lavatory.

Causes

The commonest cause of diarrhoea in patients with advanced disease is use of laxatives. Patients may use laxatives erratically; some wait until they become constipated and then use high doses of laxatives, with resultant rebound diarrhoea. Some patients complain that their laxatives are too strong; adequate explanation on the use of laxatives may solve the problem.

Among elderly patients admitted to hospital with non-malignant disease, constipation with faecal impaction and overflow accounts for over half the cases of diarrhoea. Such patients require rectal laxatives together with a stool softener; care is required with stimulant laxatives as they may cause colic.

Management

Consideration must be given to the underlying cause, but, with the exception of the scenarios above, symptomatic relief is generally achieved with non-specific antidiarrhoeal agents—loperamide (up to 16 mg daily) or codeine (10-60 mg every 4 hours). Codeine may cause central effects such as drowsiness or sedation, but this is rare with loperamide. In general, a single drug should be used, and care should be taken to avoid subtherapeutic doses of combinations of drugs.

Rarely, intractable diarrhoea may require a subcutaneous infusion of octreotide; the usual indication is a high effluent volume from a stoma. Obstructive rectal and pelvic lesions can be managed by radiotherapy and chemotherapy, surgery, or, in the case of rectal lesions, laser therapy. Palliative surgery may be necessary for patients with a fistula.

Causes of diarrhoea in advanced disease

- | | |
|--|-------------------------|
| • Drugs | • Tumour |
| Laxatives | Colon or rectum |
| Antibiotics | Pelvic |
| Antacids | Pancreatic (islet cell) |
| Chemotherapy (5-fluorouracil) | Carcinoid |
| • Radiotherapy | Fistula |
| • Intestinal obstruction (including faecal impaction) | • Malabsorption |
| • Concurrent disease, such as inflammatory bowel disease | Pancreatic carcinoma |
| • Diet | Gastrectomy |
| | Ileal resection |
| | Colectomy |
| | • Infection |

Specific treatments for diarrhoea

- Cholestyramine
 - Radiotherapy induced diarrhoea
 - Chologenic diarrhoea
- Ranitidine (or other H₂ antagonist)
 - Zollinger-Ellison syndrome
 - Fat malabsorption (with Pancreatin)
- Cyproheptadine
 - Carcinoid syndrome

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